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10/776,548	02/11/2004	Melissa Jane Buco	YOR920030592US1	3123
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EXAMINER				
LIE, ANGELA M				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/776,548

**Applicant(s)**

BUCO ET AL.

**Examiner**

ANGELA M. LIE

**Art Unit**

2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-17 and 19-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-17 and 19-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections – 35 U.S.C – 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 3-17 and 19-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over MEDJAHED et al. (Non-Patent Literature, Business-to-Business: issues and enabling technologies Interactions, May, 2003, Volume 12, Issue 1, hereinafter, MEDJAHED) in view of COLLOMB (US Publication No. 2003/0212778, Date Filed: July 16, 2002).**

**Claims 1, 28 and 29:**

Claims 1, 28 and 29 discloses a method/an article of manufacture/a data store utilizing the same functionality, MEDJAHED teaches a method/an article of manufacture/data store managing data associated with a given domain, comprising the steps of:

maintaining a specification of data attributes representing one or more types of data to be managed (Business-to-Business Interactions, May, 2003, page 69, section 4.1, first and second paragraph, MEDJAHED);

MEDJAHED disclose the limitation above. However, MEDJAHED does not disclose wherein “maintaining a specification of algorithms representing one or more types of operations performable in accordance with the data attributes”, NOR does MEDJAHED disclose, “maintaining a specification of relationships representing relationships between the data attributes and the algorithms”.

On the other hand, COLLOMB discloses “maintaining a specification of algorithms representing one or more types of operations performable in accordance with the data attributes” (paragraph [0073], wherein a class is a named description of a set of objects that share the same attributes, operations, methods, relationships, and semantics, which is equivalent to “one or more operations”; paragraph [0102], wherein the calculation of secondary parameters begins with values to primary parameters, wherein secondary parameters are defined by expressions that may operate on primary and/or secondary parameters, and wherein this allows for efficient algorithm modularization; paragraph [0104], wherein calculation expressions are modeled using UML sequence diagrams, wherein sequence diagram interaction focuses on the time-ordering of messages, wherein algorithm is interpreted to be “a mathematical rule or procedure for solving a problem”, which is equivalent to the “calculation being performed”; paragraph [0105], wherein expressions are defined as operations on a global utility class, and wherein the expressions or on an associated parent class or classes, and wherein the expression class defines one or more expressions such as the assignment, difference, minimum, maximum, and so forth, which is equivalent and interpreted to be an algorithm, which is equivalent to “specification of algorithms

representing one or more types of operations performable in accordance with the data attributes", COLLOMB) and "maintaining a specification of relationships representing relationships between the data attributes and the algorithms" (paragraph [0073], wherein a class is named description of a set of objects that share the same attributes, operations, methods, relationships, and semantics, wherein a class diagram is a diagram that shows a set of classes, interfaces, and or collaborations and the relationships among these elements; paragraphs [0096-0097], wherein RDBMS allow users to establish relationships between columns of different tables, wherein for example, a user can determine which parameter values are associated with a given instance of a concrete service component, which normally each relationship is accomplished through the use of a "key" column in the related tables that contains a shared value unique to the associated records; paragraph [0097] an action procedure, or "trigger," is an RDBMS mechanism that operates each time a column value is updated within a table; and paragraph [0099], wherein the triggers associated to a table column can be used to compute the secondary parameters and/or aggregation values, wherein for the secondary parameter calculations, a trigger may be declared for: 1) each column storing primary parameter values needed to compute a secondary parameter value, and 2) each column storing secondary parameter values needed to compute another secondary parameter value, and wherein algorithm is interpreted to be "a mathematical rule or procedure for solving a problem ", which is equivalent to an "calculation being performed" COLLOMB);

It would have been obvious at the time of the invention was made for one person of the ordinary skill in the art to modify the disclosure of MEDJAHED with COLLOMB for the purpose of implementing an improved method for providing a more resourceful work flow for managing relational data.

wherein the data attribute specification, the algorithm specification and the relationship specification are maintained in a storage framework having multiple levels (page 72, 1<sup>st</sup> column, wherein ebXML provides a set of common business process specifications that are shared by multiple industries, wherein theses specifications stored in the business library can be used by companies to build customized business processes, wherein the multiple industries and wherein these specifications are stored in the business library is interpreted to be storage framework, MEDJAHED, furthermore all of the above listed specifications are part of the business, content and communication layers, which also form a storage framework), the multiple levels being specified based on the given domain with which the data being managed is associated (Medjahed, page 69, column 2, paragraph 1, "a complete XML-based integration requires standardized domain-specific ontologies (such as an agreed upon DTD or XML Schema), mappings between different ontology descriptions, and means for processing XML documents and invoking appropriate services to handle requests". Each of the levels (i.e. business, communication or content) has its specific function, hence they might require different steps taken in response to a request based on the domain) and further wherein the multiple levels of the storage framework comprise hierarchical levels such that one level of the storage framework is a refinement of another level of the

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storage framework (Medjahed, page 71, first column paragraphs 4 and 5 and column 2, paragraph 4, wherein multiple levels are disclosed such as business level, content level, communication level etc. All those levels forming a storage framework represent specific information pertinent to the level's requirement, but yet all those levels comprise at least some information shared in common, such as product selection or order information. Since some information is presented in all those levels, they are refined from one level to another).

Claim 3:

Claim 3, the combination of MEDJAHED in view of COLLOMB teaches wherein the hierarchical levels of the storage framework maintain at least one of the data attributes, the algorithms and the representations in a template-based representation (Business-to-Business Interactions, May, 2003, page 76, first column, second paragraph, wherein "it uses its contract manager to send a contract template to a trader or matchmaking engine" MEDJAHED).

Claim 4:

Claim 4, the combination of MEDJAHED in view of COLLOMB teaches wherein data attributes are represented so as to expose at least one of a nature of the data through a plurality of ontologies, a structure of the content of the data, and a structure of a mechanism by which the data may be retrieved (Business-to-Business Interactions, May, 2003, page 81, wherein table 1 is defined and JAVA RMI, MEDJAHED).

Claim 5:

Claim 5, the combination of MEDJAHED in view of COLLOMB teaches wherein the algorithms are represented so as to expose at least one of a nature of the algorithms through a plurality of ontologies, a structure of parameters of the algorithms expressed according to a nature of the data attributes, and a structure of a mechanism by which code for the algorithms may be retrieved (Business-to-Business Interactions, May, 2003, page 69, second column, first paragraph and page 7, section 6.4, first and second paragraph, MEDJAHED).

Claim 6:

Claim 6, the combination of MEDJAHED in view of COLLOMB teaches wherein the relationships between the data attributes and the algorithms are represented in support of a plurality of computations for computing domain-specific results (Business-to-Business Interactions, May, 2003, page 69, second column, first paragraph and page 7, MEDJAHED).

Claim 7:

Claim 7, the combination of MEDJAHED in view of COLLOMB teaches the step of, in accordance with an application, retrieving at least a portion of the data attributes and the algorithms to perform a computation sequence (Business-to-Business Interactions, May, 2003, page 75, first paragraph, MEDJAHED).

Claim 8:

Claim 8, the combination of MEDJAHED in view of COLLOMB teaches wherein the computation sequence is based on a specification of a computation start point and a



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computation end point as described by a data flow graph (Business-to-Business Interactions, May, 2003, page 78, first column and first paragraph, MEDJAHED).

Claim 9:

Claim 9, the combination of MEDJAHED in view of COLLOMB teaches the step of, in accordance with an application, one of creating and managing templates (Business-to-Business Interactions, May, 2003, page 77, first paragraph and section 6.3, wherein the first paragraph is defined, MEDJAHED).

Claim 10:

Claim 10, the combination of MEDJAHED in view of COLLOMB teaches the step of, in accordance with an application, one of populating and managing a template instance for a particular template (Business-to-Business Interactions, May, 2003, page 82, wherein table 4 is defined and wherein adaptability column is illustrated, fifth row, MEDJAHED).

Claim 11:

Claim 11, the combination of MEDJAHED in view of COLLOMB teaches wherein relationships between data attributes, which support non-processing relationships, are maintained in support of a plurality of functions (Business-to-Business Interactions, May, 2003, page 71, section 4.1.3, first paragraph, MEDJAHED).

Claim 12:

Claim 12, the combination of MEDJAHED in view of COLLOMB teaches wherein the data attributes and the algorithm are verifiable with respect to at least one of

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consistency and correctness (Business-to-Business Interactions, May, 2003, page 70, section 4.1.2, first paragraph, MEDJAHED).

Claim 13:

Claim 13, the combination of MEDJAHED in view of COLLOMB teaches the step of deferring a decision as to whether to apply a computation step in support of a desired result from a computation sequence in accordance with metadata within the storage framework (Business-to-Business Interactions, May, 2003, page 66, section 3.2.2, second paragraph, MEDJAHED).

Claim 14:

Claim 14, the combination of MEDJAHED in view of COLLOMB teaches wherein a relationship is maintained between data at a domain specification level of the storage framework and an instance specification level of the storage framework (Business-to-Business Interactions, May, 2003, page 73, section 4.2.2, third paragraph, MEDJAHED).

Claim 15:

Claim 15, the combination of MEDJAHED in view of COLLOMB teaches the step of, in accordance with an application, traversing one or more processing relationships among a plurality of templates and template instances maintained in accordance with the storage framework so as to ascertain one or more computation relationships (Business-to-Business Interactions, May, 2003, page 74, section 4.2.3, fourth paragraph, MEDJAHED).

Claim 16:

Claim 16, the combination of MEDJAHED in view of COLLOMB teaches wherein the given domain comprises a service level management domain (Business-to-Business Interactions, May, 2003, page 79, wherein the table 1 is defined, MEDJAHED).

Claim 17:

Claim 17, the combination of MEDJAHED in view of COLLOMB teaches wherein the service level management domain supports proactive management of a plurality of service level agreements allowing one or more of service level agreement reporting, a customer-related business impact evaluation and a service provider internal business impact evaluation in accordance with relationships represented within flow graphs associated with the storage framework (Business-to-Business Interactions, May, 2003, page 75, section 5.2, first paragraph and page 77, section 6.4, second paragraph, MEDJAHED).

Claim 19:

Claim 19, the combination of MEDJAHED in view of COLLOMB teaches wherein the service level management data elements comprise one or more of service level agreement contract data, internal service level management data, and service level management algorithm specifications (REFER to claim 17, wherein this limitation is substantially the same, MEDJAHED).

Claim 20:

Claim 20, the combination of MEDJAHED in view of COLLOMB teaches wherein the service level management algorithms comprise one or more of measurement data adjudication and service level evaluation for a particular category of data element

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(Business-to-Business Interactions, May, 2003, page 62, second column, first paragraph, MEDJAHED).

Claim 21:

Claim 21, the combination of MEDJAHED in view of COLLOMB teaches wherein the service level management relationships comprise evaluation in accordance with flow graph specifications and relationship management between service level agreement data and internal service level management data (Business-to-Business Interactions, May, 2003, page 74, section 4.2.3, the forth paragraph, MEDJAHED).

Claim 22:

Claim 22, the combination of MEDJAHED in view of COLLOMB teaches wherein relationships between service level agreement contract data and other service level management data are maintained in support of a plurality of service level management functions (Business-to-Business Interactions, May, 2003, page 73, and second column, first paragraph, MEDJAHED).

Claim 23:

Claim 23, the combination of MEDJAHED in view of COLLOMB teaches the step of, in accordance with an application, traversing one or more service level management related processing relationships among a plurality of templates and template instances maintained in accordance with data flow graphs as maintained within the storage framework so as to ascertain one or more service level management computation relationships (Business-to-Business Interactions, May, 2003, Figure 7, MEDJAHED).

Claim 24:

Claim 24, the combination of MEDJAHED in view of COLLOMB teaches the step of prioritizing one or more data access requests based on a service provider business impact assessment to the storage framework so as to sequence data results in accordance with one or more service management objectives (Business-to-Business Interactions, May, 2003, page 73, section 4.2.2, second paragraph, MEDJAHED).

Claim 25:

Claim 25, the combination of MEDJAHED in view of COLLOMB teaches wherein data is obtainable from one or more semantically equivalent data sources (Business-to-Business Interactions, May, 2003, page 66, second column, first paragraph, MEDJAHED).

Claim 26:

Claim 26, the combination of MEDJAHED in view of COLLOMB teaches wherein data is one of original data and derived data, wherein original data is data external to the storage framework and derived data is data maintained within the storage framework (Business-to-Business Interactions, May, 2003, page 62, first column, section 2.3, fifth paragraph, MEDJAHED).

Claim 27:

Claim 27, the combination of MEDJAHED in view of COLLOMB teaches an apparatus for managing data associated with a given domain, comprising:

a memory for storing a storage framework; and at least one processor coupled to the memory and operative to (Business-to-Business Interactions, May, 2003, page 60, Figure 1, MEDJAHED):

(i) maintain a specification of data attributes representing one or more types of data to be managed (REFER to claim 1, wherein this limitation is substantially the same);

(ii) maintain a specification of algorithms representing one or more types of operations performable in accordance with the data attributes (REFER to claim 1, wherein this limitation is substantially the same); and

(iii) maintain a specification of relationships representing relationships between the data attributes and the algorithms; wherein the data attribute specification, the algorithm specification and the relationship specification are maintained in the storage framework which has multiple levels, the multiple levels being specified based on the given domain with which the data being managed is associated (REFER to claim 1, wherein this limitation is substantially the same).

Claim 30:

Claim 30, the combination of MEDJAHED in view of COLLOMB teaches a method of providing a service for managing data associated with a given domain, comprising the step of:

a service provider providing a data management system in accordance with one or more customers, the data management system being operative to (Business-to-Business Interactions, May, 2003, Figure 1 and page 72, section 4.2 and Figure 7 on page 73, MEDJAHED):

(i) maintain a specification of data attributes representing one or more types of data to be managed (REFER to claim 1, wherein this limitation is substantially the same);

(ii) maintain a specification of algorithms representing one or more types of operations performable in accordance with the data attributes (REFER to claim 1, wherein this limitation is substantially the same); and

(iii) maintain a specification of relationships representing relationships between the data attributes and the algorithms; wherein the data attribute specification, the algorithm specification and the relationship specification are maintained in a storage framework having multiple levels, the multiple levels being specified based on the given domain with which the data being managed is associated (REFER to claim 1, wherein this limitation is substantially the same).

Claim 31:

Claim 31, the combination of MEDJAHED in view of COLLOMB teaches wherein service level agreement report data is generated for a customer in accordance with one or more clauses of a service level agreement such that the one or more clauses are mapped to service level agreement data and is associated with a service provider representation of the data using one or more relationship mappings and service level agreement report data is generated in accordance with a sequence of processing relationships (Business-to-Business Interactions, May, 2003, page 73, section 4.2.2, third paragraph, MEDJAHED)

Claim 32:

Claim 32, the combination of MEDJAHED in view of COLLOMB teaches wherein customer business impact assessment data is generated for a customer in accordance with one or more expressed wishes of a customer such that one or more business impact evaluation data wishes of the customer are mapped to customer-related business impact data and is associated with a service provider representation of service level management data using relationship mappings and the customer-related data is generated in accordance with a sequence of processing relationships (Business-to-Business Interactions, May, 2003, page 59, section 1, wherein the introduction is defined, MEDJAHED).

Claim 33:

Claim 33, the combination of MEDJAHED in view of COLLOMB teaches wherein the business impact evaluation data may provide a customer with one or more customer relevant business impact assessments (Business-to-Business Interactions, May, 2003, page 72, section 4.2.1, first paragraph, MEDJAHED).

Claims 34 and 36:

Claims 34 and 36, the combination of MEDJAHED in view of COLLOMB teaches wherein the one or more customer relevant business impact assessments comprise one or more customer relevant what-if scenario result data sets (Business-to-Business Interactions, May, 2003, page 60, column 1, Figure 1, MEDJAHED).

Claim 35:

Claim 35, the combination of MEDJAHED in view of COLLOMB teaches wherein service provider business impact management data is generated for a customer in



accordance with one or more wishes of the service provider such that the one or more service provider business impact evaluation data wishes are mapped to provider-facing business impact data and is associated with a service provider representation of service level management data using relationship mappings and service level management business impact data of the service provider is generated in accordance with a sequence of processing relationships (Business-to-Business Interactions, May, 2003, page 60, column 2, second paragraph, MEDJAHED).

Claim 37:

Claim 37, the combination of MEDJAHED in view of COLLOMB teaches wherein the one or more provider relevant business impact assessments comprise one or more what-if scenario result data sets and aggregations of business impact across multiple customers (Business-to-Business Interactions, May, 2003, page 64, column 1, wherein the first paragraph is defined, MEDJAHED).

***Response to Arguments***

3. Applicant's arguments with respect to claims 1, 28 and 29 have been considered but are moot in view of the new grounds of rejection.
4. Please note that the Examiner presented new grounds of rejection corresponding to the following limitations : "wherein the data attribute specification, the algorithm specification are maintained in a storage framework having multiple levels; wherein the multiple levels are specified based on the given domain, with which the data being managed is associated and further wherein the multiple levels of the storage framework

comprise hierarchical levels such that one level of the storage framework is a refinement of another level of the storage framework".

5. With respect to the Applicant's assertion on page 11, alleging that that B2B commerce system is not a service level management system because "B2B interaction is a term used to specifically describe electronic commerce transactions between businesses. The term can not be used interchangeably with service level management", the Examiner strongly disagrees. Since the Applicant neither in the claim, nor in the specification defined the phrase "service level management", the Examiner should allot this phrase the broadest, reasonable interpretation. Consequently, "service level management" could be reasonably associated with any type of service such transaction, which could represented by the multiple layers such as business, communication and content.

#### ***Inquiry***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANGELA M. LIE whose telephone number is (571)272-8445. The examiner can normally be reached on M-F.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela M Lie/  
Examiner, Art Unit 2163

***/don wong/  
Supervisory Patent Examiner, Art Unit 2163***